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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|----------------------------|-------------|----------------------|---------------------|------------------|
| 10/637,660 | 08/11/2003 | Shinichi Takahashi | 50943-021 | 4069 |
| 20277 | 7590 | 11/09/2006 | EXAMINER | |
| MCDERMOTT WILL & EMERY LLP | | | CHU, HELEN OK | |
| 600 13TH STREET, N.W. | | | ART UNIT | |
| WASHINGTON, DC 20005-3096 | | | PAPER NUMBER | |

1745

DATE MAILED: 11/09/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

| | | | |
|------------------------------|--------------------------------------|--|--|
| Office Action Summary | Application No. 10/637,660 | Applicant(s) TAKAHASHI, SHINICHI | |
| | Examiner Helen O. Chu | Art Unit 1745 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on 30 August 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1 and 3-6 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1 and 3-6 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. Applicant's Amendments have been received on August 30, 2006. Claim 1 has been amended. Claim 2 has been cancelled.
2. The text of those sections of Title 35, U.S.C. code not included in this action can be found in the prior Office Action.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 1, 4 and 5, rejected under 35 U.S.C. 102(b) as being anticipated by Sugiura et al. (US Publication 20020038732 A1)

In regard to claims 1, 4 and 5, the Sugiura et al. reference teaches a motor vehicle (Paragraph 46) comprises a fuel cell connected to the DC/DC converter connected to a rechargeable battery; all connections are in parallel (Abstract, Paragraph 7). A controller (Figure 10) reads the response from the DC/DC converter (Paragraph 53) during start up the fuel cell. Since the fuel cell is not warmed up to generate electric power, the battery compensates the electric power to drive the fuel cell accessories, by

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which the fuel cell is warmed up and started (Paragraph 56). Further, the Sugiera et al. discloses that power is supplied from the fuel cell into a rechargeable battery (Paragraphs 8 and 13)

5. Claims 1, 3, 5 are rejected under 35 U.S.C. 102(e) as being anticipated by Hayashi et al. (US Publication 2002/0146610 A1).

In regard to claims 1 and 5, the Hayashi et al. reference discloses a motor vehicle (Paragraph 110) comprises a battery and fuel cell in parallel (Paragraph 171). When the operating of the fuel cell is started, it is detected that the temperature of the fuel cell is equal to or below a predetermined temperature based on the detected result of the temperature sensor, the ECU (component 50) switched the electric heater on, so that the upper half of the fuel cell is heated (Paragraph 132). It is inherent that batteries are DC power supply devices.

In regards to claim 3, the Hayashi et al. discloses stacked PEM fuel cell with diffusion layers and separators (Paragraph 101 and 102).

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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7. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sugiura et al. or Hayashi et al. as applied to claim 1.

The Sugiura et al. and Hayashi et al. reference discloses motored vehicles but does not include automobiles as part of the disclosed invention. However, it would have been obvious to one of ordinary skill to incorporate the fuel cell system as disclosed by Sugiura et al. and Hayashi et al. into an automobile because the most popular and highly owned motored vehicle is an automobile per household in the United States. One of ordinary skill must acknowledge that the sales of any invention are depended on demand which would motivate any business or company to obtain inventions. The demand for an automobile is higher than the demand for any other motored vehicles such as an airplane or a forklift.

Response to Arguments

8. Applicant's arguments with respect to claims 1-6 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Helen O. Chu whose telephone number is (571) 272-5162. The examiner can normally be reached on Monday-Friday 8am-4:30pm.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick Ryan can be reached on (571) 272-1292. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

HOC



TRACY DOVE
PRIMARY EXAMINER